

**RENEWABLE ENERGY APPROVAL**NUMBER 4501-8QUJ5A  
Issue Date: February 9, 2012

Northland Power Solar Rideau Lakes LP  
30 St. Clair Ave W 17th Floor  
Toronto, Ontario  
M4V 3A1

Project: Rideau Lakes Solar Project  
Location: 360 Narrow Locks Road  
Front Half Part, Reference Plan 28R-3578 (Except Parts 6,  
7, 10, 11, 14, 16)  
Lot 25, Concession 2  
Rideau Lakes Township, United Counties of Leeds and  
Grenville

*You have applied in accordance with Section 47.4 of the Environmental Protection Act for approval to engage in a renewable energy project in respect of a Class 3 solar facility consisting of the following:*

- the construction, installation, operation, use and retiring of:
  - (a) seven (7) arrays of photovoltaic (PV) modules or panels with a total name plate capacity of up to approximately ten (10) megawatts (AC);
  - (b) seven (7) clusters, each consisting of two (2) inverters of 800 kilo volt-amp (kVA) capacity, and one (1) 1.6 mega volt-amp (MVA) pad mounted transformer;
  - (c) one (1) transformer substation, 10 mega volt-amp (MVA), 27.6/44.0 kilo volt (kV);
  - (d) one (1) collection system with an oil/water separator system for potential oil spills from the substation transformer with specifications as required under Condition 15; and
  - (e) associated ancillary equipment, systems and technologies including on-site access roads, control building, maintenance shed, teleprotection antenna tower, underground and distribution lines.

all in accordance with the Application for a Renewable Energy Approval, dated April 7, 2011, and

signed by John Brace, President and CEO, Northland Power Solar Rideau Lakes GP Inc., on behalf of Northland Power Solar Rideau Lakes LP, and all supporting documentation submitted with the Application, including an Acoustic Assessment Report entitled "Noise Assessment Report -Rideau Lakes Solar Project", prepared by HATCH, dated April 5, 2011, and updated December 6, 2011 and all supporting documentation submitted with the Application up to January 26, 2012.

*For the purpose of this renewable energy approval, the following definitions apply:*

1. "Acoustic Assessment Report" means the report included in the Application and entitled " Noise Assessment Study Report -Rideau Lakes Solar Project, Rev.3, dated December 6, 2011, prepared by Hatch Ltd. and signed by Oleg Belashov, P.Eng. of Hatch Ltd.",
2. "Act" means the *Environmental Protection Act*, R.S.O 1990, c.E.19, as amended;
3. "Adverse Effect" has the same meaning as in the Act;
4. "Application" means the application for a Renewable Energy Approval dated April 7, 2011, and signed by John Brace, President and CEO, Northland Power Solar Rideau Lakes GP Inc., on behalf of Northland Power Solar Rideau Lakes LP, and all supporting documentation submitted with the application, including amended documentation submitted up to January 26, 2012;
5. "Approval" means this Renewable Energy Approval issued in accordance with Section 47.4 of the Act, including any schedules to it;
6. "A-weighting" means the frequency weighting characteristic as specified in the International Electrotechnical Commission (IEC) Standard 61672, and intended to approximate the relative sensitivity of the normal human ear to different frequencies (pitches) of sound. It is denoted as "A";
7. "A-weighted Sound Pressure Level" means the Sound Pressure Level modified by application of an A-weighting network. It is measured in decibels, A-weighted, and denoted "dBA";
8. "Class 1 Area" means an area with an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people, usually road traffic, often referred to as "urban hum";

9. "Class 2 Area" means an area with an acoustical environment that has qualities representative of both Class 1 and Class 3 Areas:
  - (a) sound levels characteristic of Class 1 during daytime (07:00 to 19:00 or to 23:00 hours);
  - (b) low evening and night background sound level defined by natural environment and infrequent human activity starting as early as 19:00 hours (19:00 or 23:00 to 07:00 hours);
  - (c) no clearly audible sound from Stationary Sources other than from those under impact assessment.
  
10. "Class 3 Area" means a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as the following:
  - (a) a small community with less than 1000 population;
  - (b) agricultural area;
  - (c) a rural recreational area such as a cottage or a resort area; or
  - (d) a wilderness area.
  
11. "Company" means Northland Power Solar Rideau Lakes LP, a limited partnership registered under the laws of Ontario, managed by its general partner Northland Power Solar Rideau Lakes GP Inc., and includes its successors and assignees;
  
12. "Decibel" means a dimensionless measure of Sound Level or Sound Pressure Level, denoted as dB;
  
13. "Director" means a person appointed in writing by the Minister of the Environment pursuant to section 5 of the Act as a Director for the purposes of section 47.5 of the Act;
  
14. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Facility is geographically located;
  
15. "Equipment" means the inverters, transformers, and transformer substation identified in this Approval and as further described in the Application, to the extent approved by this Approval;
  
16. "Equivalent Sound Level" is the value of the constant sound level which would result in exposure to the same total A-weighted energy as would the specified time-varying sound, if the constant sound level persisted over an equal time interval. It is denoted  $L_{eq}$  and is measured in dB A-weighting (dBA);

17. "Facility" means the renewable energy generation facility, including the Equipment, as described in this Approval and as further described in the Application, to the extent approved by this Approval;
18. "Ministry" means the ministry of the government of Ontario responsible for the Act and includes all officials, employees or other persons acting on its behalf;
19. "Noise Guidelines" means the Ministry Publication NPC-232 or Publication NPC-205, whichever is applicable;
20. "O. Reg. 359/09" means Ontario Regulation 359/09 "Renewable Energy Approvals under Part V.0.1 of the Act" made under the Act;
21. "Point of Reception" has the same meaning as in the Noise Guidelines and is subject to the same qualifications described in that document;
22. "Publication NPC-205" means the Ministry Publication NPC-205, "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", October, 1995 as amended;
23. "Publication NPC-232" means the Ministry Publication NPC-232, "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)", October, 1995 as amended;
24. "Sound Level" means the A-weighted Sound Pressure Level;
25. "Sound Level Limit" is the limiting value described in terms of the one hour A-weighted Equivalent Sound Level Leq;
26. "Sound Pressure" means the instantaneous difference between the actual pressure and the average or barometric pressure at a given location. The unit of measurement is the micro pascal ( $\mu\text{Pa}$ );
27. "Sound Pressure Level" means twenty times the logarithm to the base 10 of the ratio of the effective pressure ( $\mu\text{Pa}$ ) of a sound to the reference pressure of  $20 \mu\text{Pa}$ ;
28. "UTM" means Universal Transverse Mercator coordinate system.

*You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:*

## **TERMS AND CONDITIONS**

### **GENERAL**

1. The Company shall construct, install, use, operate, maintain and retire the Facility in accordance with the terms and conditions of this Approval and the Application.

2. Where there is a conflict between a provision of this Approval and any document submitted by the Company, the conditions in this Approval shall take precedence. Where there is a conflict between one or more of the documents submitted by the Company, the document bearing the most recent date shall take precedence.
3. The Company shall ensure a copy of this Approval is:
  - (1) accessible, at all times, by Company staff operating the Facility and;
  - (2) submitted to the clerk of each local municipality and upper-tier municipality in which the Facility is situated along with the Application.
4. If the Company has a website, the Company shall ensure that the Approval and the Application are posted on the Company's publicly accessible website within five (5) business days of receiving this Approval.
5. The Company shall, at least six (6) months prior to the anticipated retirement date of the entire Facility, or part of the Facility, review its Decommissioning Plan Report to ensure that it is still accurate. If the Company determines that the Facility cannot be decommissioned in accordance with the Decommissioning Plan Report, the Company shall provide the Director and District Manager a written description of plans for the decommissioning of the Facility.
6. The Facility shall be retired in accordance with the Decommissioning Plan Report and any directions provided by the Director or District Manager.
7. The Company shall provide the District Manager and the Director at least ten (10) days written notice in advance of the following:
  - (1) the commencement of any construction or installation activities at the project location; and
  - (2) the commencement of the operation of the facility.

#### **EXPIRY OF APPROVAL**

8. Construction and installation of the Facility must be completed within two (2) years of the later of:
  - (1) the date this Approval is issued; or
  - (2) if there is a hearing or other litigation in respect of the issuance of this Approval, the date that this hearing or litigation is disposed of, including all appeals.
9. This Approval ceases to apply in respect of any portion of the Facility not constructed or installed before the later of the dates identified in Condition No. 8.

## **PERFORMANCE LIMITS**

10. The Company shall ensure that:
  - (1) the Sound Levels from the Equipment, at the Points of Reception identified in the Acoustic Assessment Report, comply with the Sound Level Limit of 40 dBA as described in Publication NPC-232;
  - (2) the Equipment is constructed and installed at either of the following locations:
    - a) at the locations identified in Schedule A of this Approval; or
    - b) at a location that does not vary by more than 10 metres from the locations identified in Schedule A of this Approval and provided that,
      - i) the Equipment will comply with Condition No. 10 (1) and
      - ii) all setback prohibitions established under O. Reg. 359/09 are complied with.
11. If the Company determines that some or all of the Equipment cannot be constructed in accordance with Condition No. 10 (2), prior to the construction and installation of the Equipment in question, the Company shall apply to the Director for an amendment to the terms and conditions of the Approval.
12. Within three (3) months of the completion of the construction of the Facility, the Company shall submit to the Director a written confirmation signed by an individual who has authority to bind the Company that the UTM coordinates of the "as constructed" Equipment comply with the requirements of Condition No. 10 (2).

## **STORMWATER MANAGEMENT**

13. The Company shall employ best management practices for stormwater management and sediment and erosion control during construction, installation, use, operation, maintenance and retiring of the Facility, as outlined in the Application.

## **SEWAGE WORKS**

14. The Company shall, prior to the commercial operation date of the Facility, retain an independent Professional Engineer licensed in Ontario and familiar with electrical transformer substations and its associated sewage works to prepare a design report on the spill containment facility and, obtain approval (in the form of a letter) from the Director for a substation transformer spill containment area and associated sewage works that shall contain the following:
  - (1) final design drawings and specifications of the spill containment and associated sewage works;

- (2) an operation and maintenance procedures manual including an emergency/contingency plan; and
  - (3) a monitoring program, including a groundwater monitoring program in the event of subsurface disposal system.
15. The Company shall design the sewage works in Condition No. 14 such that the concentration of the effluent parameter named in the table below does not exceed the maximum concentration objective shown for that parameter in the effluent, and shall comply with the following requirements:

Effluent Parameters	Maximum Concentration Objective
Oil and Grease	15 mg/L

- (1) notify the District Manager as soon as reasonably possible of any exceedance of the maximum concentration objective set out in the table above;
- (2) take immediate action to identify the cause of the exceedance; and
- (3) take immediate action to prevent further exceedances.

**WATER TAKING**

16. The Company shall not take more than 50,000 litres of water on any day by any means during the construction, installation, use, operation, maintenance and retiring of the Facility.

**GROUNDWATER MONITORING**

17. The Company shall implement the pre construction survey and groundwater monitoring program described in the April 5, 2011 "Baseline Well Water Monitoring Program and Construction Response Plan" included in the Application.
18. The Company shall implement the groundwater monitoring program described in Condition No. 17 for a minimum period of two (2) years after the start of construction of the Facility.
19. The Company shall report the summary of the results of the groundwater monitoring program on an annual basis to the District Manager.

**ARCHAEOLOGICAL RESOURCES**

20. The Company shall implement all of the recommendations, if any, for further archaeological fieldwork and for the protection of archaeological sites found in the consultant archaeologist's report included in the Application, and which the Company submitted to the Ministry of Tourism and Culture in order to comply with clause 22(2) (b)

of O. Reg. 359/09.

21. Should any previously undocumented archaeological resources be discovered, the Company shall:
  - (1) cease all alteration of the area in which the resources were discovered immediately;
  - (2) engage a consultant archaeologist to carry out the archaeological fieldwork necessary to further assess the area and to either protect and avoid or excavate any sites in the area in accordance with the *Ontario Heritage Act*, the regulations under that Act and the Ministry of Tourism and Culture's "Standards and Guidelines for Consultant Archaeologists"; and
  - (3) notify the Director as soon as reasonably possible.

#### **TRAFFIC MANAGEMENT PLANNING**

22. Within three (3) months of receiving this Approval, the Company shall prepare a Traffic Management Plan and provide it to the United Counties of Leeds and Grenville.
23. Within three (3) months of having provided the Traffic Management Plan to the United Counties of Leeds and Grenville, the Company shall make reasonable efforts to obtain an entrance permit from the United Counties of Leeds and Grenville.
24. If an entrance permit has not been obtained from the United Counties of Leeds and Grenville within three (3) months of having provided the Traffic Management Plan to the United Counties of Leeds and Grenville, the Company shall provide a written explanation to the Director as to why this has not occurred.

#### **OPERATION AND MAINTENANCE**

25. Before the commercial operation date of the Facility, the Company shall prepare a written manual for use by Company staff outlining the operating procedures and a maintenance program for the Equipment that includes as a minimum the following:
  - (1) routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;
  - (2) inspection programs including frequency of inspection and the methods or tests employed to detect when maintenance is necessary;
  - (3) repair and maintenance programs, including the frequency of repair and maintenance;
  - (4) emergency procedures;
  - (5) procedures for any record keeping activities relating to operation and maintenance of the Equipment, including the sewage works of the transformer/substation spill



containment facility;

- (6) all appropriate measures to minimize noise emissions from the Equipment; and
  - (7) any additional information requested in writing by the District Manager from time to time.
26. The Company shall;
- (1) update as required the manual described in Condition No. 25; and
  - (2) make the manual described in Condition No. 25 available for review by staff of the Ministry upon request.
27. The Company shall ensure that the Facility is operated and maintained in accordance with the Approval and the manual described in Condition No. 25.

## **RECORD CREATION AND RETENTION**

28. The Company shall create written records consisting of the following:
- (1) an operations log summarizing the operation and maintenance activities of the Facility;
  - (2) within the operations log, a summary of routine and Ministry staff inspections of the Facility; and
  - (3) a record of any complaint alleging an Adverse Effect caused by the construction, installation, use, operation, maintenance or retirement of the Facility.
29. A record described under Condition No. 28 (3) shall include:
- (1) a description of the complaint that includes as a minimum the following:
    - a) the date and time the complaint was made;
    - b) the name, address and contact information of the person who submitted the complaint;
  - (2) a description of each incident to which the complaint relates that includes as a minimum the following:
    - a) the date and time of each incident;
    - b) the wind direction at the time of each incident;
    - c) the location of the person who submitted the complaint at the time of each incident; and
  - (3) a description of the measures taken to address the cause of each incident to which the complaint relates and to prevent a similar occurrence in the future.

30. The Company shall retain, for a minimum of five (5) years from the date of their creation, all records described in Condition No. 28, and make these records available for review by staff of the Ministry upon request.

#### **NOTIFICATION OF COMPLAINTS**

31. The Company shall notify the District Manager of each complaint within two (2) business days of the receipt of the complaint.
32. The Company shall provide the District Manager with the written records created under Condition No. 28 within eight (8) business days of the receipt of the complaint.
33. If the Company receives a complaint related to groundwater, the Company shall contact the District Manager within one (1) business day of the receipt of the complaint to discuss appropriate measures to manage any potential groundwater issues.

#### **CHANGE OF OWNERSHIP**

34. The Company shall notify the Director in writing, and forward a copy of the notification to the District Manager, within thirty (30) days of the occurrence of any of the following changes:
  - (1) the ownership of the Facility;
  - (2) the operator of the Facility;
  - (3) the address of the Company;
  - (4) the partners, where the Company is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act*, R.S.O. 1990, c.B.17, as amended, shall be included in the notification; and
  - (5) the name of the corporation where the Company is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under the *Corporations Information Act*, R.S.O. 1990, c. C.39, as amended, shall be included in the notification.

## SCHEDULE A

Coordinates of the Equipment are listed below in UTM z17-NAD83 projection:

Equipment ID.	Description	Coordinates, UTM (NAD 83 z17)	
		Easting, m	Northing, m
RL-Sub	10 MVA Transformer Substation	399020	4947013
RL-Inv 1	800 kVA (AC) x2 Inverters	398641	4946755
RL-Inv 2	800 kVA (AC) x2 Inverters	398568	6946627
RL-Inv 3	800 kVA (AC) x2 Inverters	398568	4946515
RL-Inv 4	800 kVA (AC) x2 Inverters	398640	4946352
RL-Inv 5	800 kVA (AC) x2 Inverters	398843	4946798
RL-Inv 6	800 kVA (AC) x2 Inverters	398879	4946626
RL-Inv 7	800 kVA (AC) x2 Inverters	398879	4946462
RL-Trans 1	1.6 MVA Transformer	398646	4946755
RL-Trans 2	1.6 MVA Transformer	398573	4946626
RL-Trans 3	1.6 MVA Transformer	398573	4946514
RL-Trans 4	1.6 MVA Transformer	398645	4946351
RL-Trans 5	1.6 MVA Transformer	398838	4946798
RL-Trans 6	1.6 MVA Transformer	398874	4946626
RL-Trans 7	1.6 MVA Transformer	398874	4946463

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition Nos. 1 and 2 are included to ensure that the Facility is constructed, installed, used, operated, maintained and retired in the manner in which it was described for review and upon which Approval was granted. These conditions are also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
2. Condition Nos. 3 and 4 are included to require the Company to provide information to the public and the local municipality.
3. Condition Nos. 5 and 6 are included to ensure that final retirement of the Facility is completed in

an aesthetically pleasing manner, in accordance with Ministry standards, and to ensure long-term protection of the health and safety of the public and the environment.

4. Condition No. 7 is included to require the Company to inform the Ministry of the commencement of activities related to the construction, installation and operation of the Facility.
5. Condition Nos. 8 and 9 are intended to limit the time period of the Approval.
6. Condition No. 10 is included to provide the minimum performance requirement considered necessary to prevent an Adverse Effect resulting from the operation of the Equipment and to ensure that the noise emissions from the Equipment will be in compliance with applicable limits set in Publication NPC-232.
7. Condition Nos. 11 and 12 are included to ensure that the Equipment is constructed, installed, used, operated, maintained and retired in a way that meets the regulatory setback prohibitions set out in O. Reg. 359/09.
8. Condition No. 14 is included due to the provisional nature of the supporting documentation submitted by the Company with the Application for approval for the spill containment area and sewage works. The Director has only approved the spill containment area and sewage works in principle, and this condition will ensure that, in accordance with the provisions of the Renewable Energy Approval, prior to the commercial operation date of the Facility, the Director will have the opportunity to review detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the Facility, in order to determine the Facility's capability to comply with the Ministry's requirements stipulated in the terms and conditions of the Approval.
9. Condition No. 15 is included to establish non-enforceable effluent quality objectives which the Company is required to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
10. Condition Nos. 13, 16, 17, 18, 19, 22, 23 and 24 are included to ensure that the Facility is constructed, installed, used, operated, maintained and retired in a way that does not result in an Adverse Effect or hazard to the natural environment or any persons.
11. Condition Nos. 20 and 21 are included to protect archaeological resources that may be found at the project location.
12. Condition Nos. 25, 26 and 27 are included to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the Act, the regulation and this Approval.
13. Condition Nos. 28, 29 and 30 are included to require the Company to keep records and provide information to staff of the Ministry so that compliance with the Act, the regulation and this

Approval can be verified.

14. Condition Nos. 31, 32 and 33 are included to ensure that any complaints regarding the construction, installation, use, operation, maintenance or retirement of the Facility are responded to in a timely and efficient manner.
15. Condition No. 34 is included to ensure that the Facility is operated under the corporate name which appears on the application form submitted for this Approval and to ensure that the Director is informed of any changes.

## NOTICE REGARDING HEARINGS

*In accordance with Section 139 of the Environmental Protection Act, within 15 days after the service of this notice, you may by further written notice served upon the Director, the Environmental Review Tribunal and the Environmental Commissioner, require a hearing by the Tribunal.*

*In accordance with Section 47 of the Environmental Bill of Rights, 1993, the Environmental Commissioner will place notice of your request for a hearing on the Environmental Registry.*

*Section 142 of the Environmental Protection Act provides that the notice requiring the hearing shall state:*

1. The portions of the renewable energy approval or each term or condition in the renewable energy approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The signed and dated notice requiring the hearing should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The renewable energy approval number;
6. The date of the renewable energy approval;
7. The name of the Director;
8. The municipality or municipalities within which the project is to be engaged in;

*This notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, 15th Floor  
Toronto, Ontario  
M5G 1E5

AND

The Environmental Commissioner  
1075 Bay Street, 6th Floor  
Suite 605  
Toronto, Ontario  
M5S 2B1

AND

The Director  
Section 47.5, *Environmental Protection Act*  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*Under Section 142.1 of the Environmental Protection Act, residents of Ontario may require a hearing*

by the Environmental Review Tribunal within 15 days after the day on which notice of this decision is published in the Environmental Registry. By accessing the Environmental Registry at [www.ebr.gov.on.ca](http://www.ebr.gov.on.ca), you can determine when this period ends.

Approval for the above noted renewable energy project is issued to you under Section 47.5 of the Environmental Protection Act subject to the terms and conditions outlined above.

DATED AT TORONTO this 9th day of February, 2012



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Mansoor Mahmood, P.Eng.  
Director  
Section 47.5, *Environmental Protection Act*

SR/

c: District Manager, MOE Kingston - District  
Sean Male, HATCH